ENGINE 112 in MODEL 129, 163, 170, 202, 203, 208, 210, 220
ENGINE 113 in MODEL 129, 163, 202, 208, 210, 215, 220
ENGINE 112, 113 in MODEL 463

Damage code	Cause	Remedy	
		[i] Studies on engines 112/113 due to excessive engine oil consumption have indicated to date that excessive engine oil consumption is not a general subject, but rather can result from various causes. The causes listed below may cause excessive engine oil consumption individually or in combination. For commercially available tools for see Workshop Equipment Manual	
	Cause 1:	**Remedy 1:**	
00 001 70	Cast iron crust in right cylinder head behind oil drain opening	1 Remove cast iron crust	AF18.00-P-8045A
	Cause 2:	**Remedy 2:**	
00 001 70	V-shaped material flaws (rough unhoned points) on individual cylinder liners [i] Up to production 08/2000.	1 Check cylinder liners with piston at bottom dead center.# Inspect cylinders with light probe [tool] [tool] [tool]	AR01.00-P-0200AU *WH58.30-Z-1009-05A *WH58.30-Z-1010-05A *WH58.30-Z-1027-05A
		[i] Cylinder barrels not okay:# 2 Remove/install/replace engine or shortblock.	
	Cause 3:	**Remedy 3:**	
00 001 70	Single oil scraper rings with ring tension at lower tolerance limit. [i] Up to production 06/1999.	1 Perform oil consumption test drive over approx. 500 km. [!] Exclude all other types of faults.	AR18.00-P-0025AV
		2 Remove/install/replace piston rings. [!] Install cleaned pistons with new piston rings in the same cylinder. [i] Install piston rings with optimized ring tension. These piston rings are available as replacement parts under the normal replacement part number.	
	Cause 4:	**Remedy 4:**	
00 001 70	Individual (right) cylinder heads with inner porous points to air injection duct.	1 Check left/right cylinder bank.	
		[i] If a cylinder bank is oily:# 2 Remove/install/replace only this cylinder head. ENGINE 112 in MODEL 220, 210, 208, 202, 129 ENGINE 113 in MODEL 220, 210, 208, 202, 129 ENGINE 112.942 in MODEL 163.154 ENGINE 113.942 in MODEL 163.172 ENGINE 113.981 in MODEL 163.174 ENGINE 112.945, 113.962 in MODEL 463	AR01.30-P-5800B AR01.30-P-5800MV AR01.30-P-5800GV
	Cause 5:	**Remedy 5:**	
00 001 70	Individual engines with missing valve seals on individual cylinders	1 Remove valve springs on affected cylinder.	AR05.30-P-3500B
	[i] In this case, usually one cylinder is oily, oil runs through valve cone into cylinder when valve is open.	2 Check valve seal.	

		[i] Valve seal not okay :# 3 Remove/install/replace valve seal.	AR05.30-P-3500B
	Cause 6:	**Remedy 6:**	
00 001 70	1.5 mm hole missing on individual right cylinder head covers at connection to crankcase ventilation.	1 Check cylinder head cover	
	[i] Up to production 06/1999. Crankcase ventilation out of order, engine can sludge up and consume oil as a result	[i] Cylinder head cover not okay:# 2 Remove/install/replace cylinder head cover. ENGINE 112 Air cleaner positioned on engine side. ENGINE 113 Air cleaner positioned on engine side. ENGINE 112 Air cleaner positioned on engine side ENGINE 113 Air cleaner positioned on engine side	AR01.20-P-5014BV AR01.20-P-5014B
	Cause 7:	**Remedy 7:**	
00 001 70	Engine oil sludging due to excessively long engine oil change intervals [i] If the service interval according to ASSYST is exceeded, the engine oil sludges up sooner or later depending on the oil quality, type of operation and operating time. Engine consumes oil. See Service Information.	Service information: Oil sludge 1 Print out ASSYST printout.	SI18.00-P-0010A
		2 Check oil change intervals	
		3 Inform vehicle owner.	
		4 Remove/install/replace piston rings. [!] Disassemble and clean sludged engines completely because dirty oil usually gets into clean-oil side due to clogged oil filter.	AR03.10-P-7311BV
	Cause 8:	**Remedy 8:**	
00 001 70	Piston rings sticky or have coke deposits from engine oils (e.g. API-S in USA) in connection with regionally poor fuel quality.	[!] Always use engine oils according to Specifications for Operating Fluids 229.3, do not add special additives to engine oil and fuel 1 Remove/install/replace piston rings.	BB00.40-P-0229-03A AR03.10-P-7311BV
	Cause 9:	**Remedy 9:**	
00 001 70	Piston ring wear due to excessive contamination/dust (model 163) through air intake system. [i] e.g. due to incorrect assembly after workshop visit or embrittlement of gaskets	1 Remove/install/replace gaskets on air intake line and distribution element of partial load ventilation. [i] The distribution element with optimized material will be available as of 11/ 2000 as a standard feature.	
		2 Remove/install/replace intake module.	
		[!] Exterior oil loss, e.g. due to cast iron porosity on left side of crankcase in area of engine support is not considered to be oil consumption	
		In the event of a customer complaint regarding the engine oil consumption, always determine the oil consumption definitely because the oil indicator lamp can come on due to other causes (e.g. defective oil sensor).	

Commercially available tools (see Workshop Equipment Manual)

Number	Designation	Make (e. g.)	Order number
WH58.30-Z-1009-05A	Flexible inspection light Scope of supply 1 (complete unit): -glass fiber optical fiber -light projector -230 V, storage case -operating instructions -graphics protocol	Richard Wolf GmbH Pforzheimerstr. 32 D-75438 Knittlingen Karl Storz GmbH Mittelstr. 8 D-78532 Tuttlingen	1.00565.00 80902
WH58.30-Z-1010-05A	Flexible inspection light Scope of delivery 2 (for workshops which already have an approved Wolf or Storz inspection light): -storage case -operating instructions -pictures protocol	Richard Wolf GmbH Pforzheimerstr. 32 D-75438 Knittlingen Karl Storz GmbH Mittelstr. 8 D-78532 Tuttlingen	7.05065.00 K03506AJ

WH58.30-Z-1027-05A	Cylinder inspection light Motoskop MB (cold light) with 560 mm and 200 mm lens probes	Karl Storz GmbH D-78512 Tuttlingen	80 900

Parts ordering notes

Part no.	Designation	Quantity
112 141 01 80	Gaskets	As required
112 141 02 80	Gaskets	As required
112 018 02 09	Distributor fitting	As required